

Research Article**SOCIO-ECONOMIC STATUS, NUTRITIONAL AND FOOD SAFETY KNOWLEDGE, ATTITUDE AND PRACTICES OF WOMEN STREET FOOD VENDORS IN KOLKATA*****Parvin Anjum Wara and Nayak Binata**

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Abstract

Street food vending helps to solve social and economic problems in cities like Kolkata through the provision of ready-made meals at relatively affordable prices. Many women have chosen street food vending as the source of their livelihood. But sometimes can't improve their business due to lack of nutritional and food safety knowledge and also lack of business facilities. After collecting data a statistical analysis has done and found that there have some relation with nutritional and food safety knowledge, attitude and practices with their socio- economic status. It is recommended that job security, financial helping and nutritional and food safety training should be provided by Government to improve the street food industry and also to improve the condition of women food vendor.

Keywords: Street food, Food vendors, Food safety, Women food vendors..

INTRODUCTION

The street food plays an important role in meeting food and nutritional requirements of urban population at affordable prices. It also assures the food security for low income city dwellers. [1-4]. WHO define Street food as a wide variety of ready to eat foods and beverages sold and sometimes prepared in public places [5]. Street food vending is a distinctive and prevailing component of a broad informal sector [8]. Women street vendors are contributing a positive effect to our society. They have chosen street vending as the source of their livelihood as they wanted to help their family financially. Women are often owner or employee of street food business. According to FAO 70- 90% vendors are women and they sell food in the street to improve their financial independence (FAO, 1997) [7]. In Ranchi district a study was conducted on women street vendors and they shows that women street food vendors faced many challenges like inadequacy of space, sanitation, lack of basic amenities etc etc. They also have not work place security [7]. Street food safety has become a concern and shown poor food handling and unsanitary condition. Because most of the street vendors are less educated and have not trained properly [6, 8]. So, there is an urgent need for research on street food safety and particularly in Kolkata, which appear to have rarely focused of previous research in this field. In Kolkata the large number of urban poor survive by working in informal sector like street vending, especially street food vending as the large number of city population depends on street foods. Women play an important role in street food vending as they comfortable in cooking and street food vending can be started with a low capital. This study aims to obtain the information of food safety Knowledge, attitude and practices of women Street food vendors and socio-economic condition of women street food vendors of Kolkata, the capital city of west Bengal.

METHODOLOGY**The Study design and sample procedure**

This was a cross-sectional study conducted in five zone of Kolkata (south, north, east, west and central) with a view to assessing the socio-economic status, nutritional and food safety knowledge, attitude and practice of women street food vendors. Sample was selected by "pick and choose" method according to the availability of women vendor. Total sample size was 100.

Research tool

The study was conducted by using schedule and interview method for collecting data. The schedule was constructed keeping in mind the objectives of the study. The modified interview schedule was made by the researcher own. Initially an English version of the questionnaire was made then it was translated into Bengali for field work. The questionnaire was divided into five parts consisting administrative details, Demographic information, nutritional knowledge, nutritional attitudes and nutritional behaviour. Part-I was designed to know the name of the vendor, Zone, location, date of interview etc etc. Part-II was designed to determine the vendor's Demographic status. Part-III was for justifying Nutritional knowledge. There are 20 questions related to nutritional knowledge. 10 are true, false types and 10 are multiple type questions. Part –IV is related to nutritional attitude of the vendors. There also had 20 questions. A 5-point likert scale was used to determined the attitude of the vendors. Part –V was related to nutritional practices of the vendors. 30 questions was there related to personal hygiene, observational data etc etc.

Field work

The researcher carried out her field work for the study during the period from July, 2019 to October, 2019. The collected data were verified by the researchers. Informed written consent

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was taken from each respondent. Ethical clearance was also obtained from University of Calcutta.

Frame of analysis

A master table was prepared on MS Excel, 2010 version and then data analysis was done by using SPSS technology, version 23.0. Again transferred to MS Excel, 2010 version to make tables and for further calculations of various scores. For Statistical analysis descriptive analyses used mean, standard deviation, maxima and minima for each age category. Scores were assessed according to age, education, annual income, duration of vending, food safety training etc etc. Different univariate, bi-variate and multi-variate analysis were done to relate Knowledge, attitude, practice and with various demographic factors. p value less than 0.05 with 95% confidence interval was considered as statistically significant.

RESULTS AND DISCUSSION

Table 1 shows the demographic characteristics of women street food vendors (100 vendors). Among 100 vendors 29% from east zone and 28% from south zone. 22%, 13% and 8% from central, North and west zone respectively. Vendors age ranged from 22 -67 years (mean 41.57+/- 11.204 years, with 33% between 31-40years, 27% were 41-50years of age only 7% were above 60years of age. Marital status shows that 86% of vendors are married, 1% divorcee, 4% unmarried and widow 9%. Family size has been categorized as upto 2, 3-5 and above 5 members and results are 8%, 84% and 8% respectively. Vendors educational level shows no one is illiterate, 48% completed primary education and 36% completed upper-primary education, 6% and 9% are passed Madhyamik and HS respectively. Only 1% vendor is graduate. Data regarding the earning member of their family shows that 37% vendors are only earning member of their family, 53% have more than 2 earning member at their family and 10% have more than two earning member at their family. 96% vendor have no food safety training and only 4% has training on food safety and cooking. Monthly family income of consumer range from 3000-20000 (mean 6700+/-3305.958). 45% vendor's monthly family income is below 5000 and 46% vendor's monthly income is 5000-10000 and only 9% vendor's monthly income is 10000-20000. Per capita income's range is 625-5000 (mean-1853.35+/- 1037.927). 53% vendor sold beverages like tea, coffee etc, 36% sold stable food like rice, roti, vegetables, fish, meat etc. 8% sold fast food and 35 sold other foods like ghugni, chat etc. Data on material of vending stall shows that 29% sold their food on wheel car, only 9% have wooden stall others are sold their food on tripal or other material's stall. 13% have business licence at their own name, 35% have licence at their husband or other family members name. 52% have not any business licence. Data regarding the duration of vending shows ranges from 1-40years (mean 9.96+/- 8.331). From Table 2, it is revealed that maximum knowledge of women street vendors in Zone 1 (32.86), maximum Attitude of women street vendors in Zone 1 (73.32), maximum Practice of women street vendors in Zone 1 (37.43). There is no significant differences in mean values in knowledge category with respect to Zone ($p > 0.05$). For Attitude, there is significant differences in mean values in Attitude category with respect to Zone ($p < 0.001$) and for practice there is no significant differences in mean values in Practice category with respect to Zone ($p > 0.05$). Regarding knowledge level of women street food vendors, Zone 1 is best among others as the mean value

(32.86) is more than other zones. Regarding Attitude level of women street food vendors, Zone 1 is best among others as the mean value (73.32), is more than other zones. Regarding Practice level of women street food vendors, Zone 1 is best among others as the mean value (37.43) is more than other zones. From Table 3 it is revealed zone wise Good knowledge of women street food vendors are having 0.771 times less than average knowledge as OR is 0.771 with 95% CI (0.549,1.082). similarly, for Attitude, Good Attitude of women street food vendors are having 0.538 times less than average knowledge as OR is 0.538 with 95% CI (0.365, 0.794) and for practice, Good practice of women street food vendors is having 0.783 times less than average practice as OR is 0.783 with 95% CI (0.571, 1.068). It is also shown that age wise Good knowledge of women street food vendors are having 1.039 times less than average knowledge as OR is 1.039 with 95% CI (0.988, 1.092). similarly, for Attitude, Good Attitude of women street food vendors are having 0.995 times less than average knowledge as OR is 0.995 with 95% CI (0.905,1.007) and for practice, Good practice of women street food vendors is having 1.015 times less than average practice as OR is 1.015 with 95% CI (0.969,1.064). Marital status wise Good knowledge of women street food vendors are having .699 times less than average knowledge as OR is 0.699 with 95% CI (0.350, 1.394). similarly, for Attitude, Good Attitude of women street food vendors are having 1.657 times less than average knowledge as OR is 1.657 with 95% CI (0.697, 3.940) and for practice, Good practice of women street food vendors is having 0.831 times less than average practice as OR is 0.831 with 95% CI (0.429,1.611). Educational qualification shows Good knowledge of women street food vendors are having 1.777 times less than average knowledge as OR is 1.777 with 95% CI (0.961, 3.287). similarly, for Attitude, Good Attitude of women street food vendors are having 1.021 times less than average knowledge as OR is 1.021 with 95% CI (0.565,1.848) and for practice, Good practice of women street food vendors is having 1.443 times less than average practice as OR is 1.443 with 95% CI (0.857,2.429). Food safety training shows Good knowledge of women street food vendors are having 0.677 times less than average knowledge as OR is 0.677 with 95% CI (0.047, 9.407). For Attitude, all values are 0. and for practice, Good practice of women street food vendors is having 1.194 times less than average practice as OR is 1.194 with 95% CI (0.120,11.852). 0.831 with 95% CI (0.429, 1.611). Family Income shows Good knowledge of women street food vendors are having 1.000 times less than average knowledge as OR is 1.000 with 95% CI (1.000, 1.000), this means there is no difference in good knowledge with the average knowledge.

For Attitude, and practice, the same comment can be ascertained. Experience shows Good knowledge of women street food vendors are having 0.991 times less than average knowledge as OR is 0.991 with 95% CI (0.935, 1.050). similarly, for Attitude, Good Attitude of women street food vendors are having 1.131 times less than average knowledge as OR is 1.131 with 95% CI (1.031,1.242) and for practice, Good practice of women street food vendors is having 1.443 times less than average practice as OR is 1.012 with 95% CI (.958,1.069). From the above table it is observed that there is significant relationship between food safety knowledge, attitude & practice of women food vendors as the correlation coefficient between knowledge and attitude is .314**, knowledge and practice is .319** and between attitude and practice is .359** as the p-value is less than 0.01, at 1 % level of significance.

Table 1. Demographic data for women street food vendors

Vendors Characteristics	Count	Mean± SD	Range
ZONE			
South	28 (28.0 %)		
north	13 (13.0 %)		
east	29 (29.0%)		
west	8 (8.0 %)		
central	22(22.0 %)		
AGE			
20-30	18(18.0%)		
31-40	33(33.0 %)		
41-50	27(27.0 %)	41.57 ± 11.204	22-67
51-60	15(15.0 %)		
above 60	7(7.0 %)		
Marital Status			
married	86(86.0%)		
unmarried	4(4.0%)		
widow	9(9.0 %)		
divorcee	1(1.0 %)		
Family Size			
up to 2	8(8.0 %)		
3-5	84(84.0%)		
5 and above	8(8.0 %)		
EDUCATIONAL QUALIFICATION			
Illiterate	0 (0.0%)		
Primary	48(48.0%)		
Upper Primary	36(36.0%)		
Madhyamik	6(6.0%)		
H.S	9(9.0%)		
Graduate	1(1.0%)		
EARNING MEMBER			
1	37(37.0%)		
2	53(53.0%)		
more than 2	10(10.0%)		
FOOD SAFETY TRAINING			
yes	4(4.0%)		
No	96(96.0 %)		
MONTHLY INCOME (in Rs)			
UPTO 5000	45(45.0%)		
5001- 10000	46(46.0%)	6700.00 ± 3305.948	3000 - 20000
above 10000	9(9.0%)		
PCI (in Rs)			
UPTO 1000	14(14.0%)		
1001- 3000	76(76.0%)	1853.357 ± 1037.927	625.00 - 5000.00
above 3000	10(10.0%)		
Types of Vended Food			
Fast food	8(8.0%)		
Stable food	36(36.0%)		
beverages	53(53.0 %)		
others	3(3.0 %)		
Materials of vending stall			
wooden	9 (9.0 %)		
tripal	22 (22.0 %)		
wheel	29 (29.0%)		
fench	7 (7.0 %)		
others	33 (33.0 %)		
Own Business License			
Yes	13(13.0%)		
No	35(35.0 %)		
Others	52(52.0%)		
Duration of vending			
up to 10 years	72(72.0%)		
11-20years	20(20.0%)		
21-30years	5(5.0%)	9.96 ± 8.331	1 - 40
30 years and more	3(3.0%)		

Table 2. Zone wise average knowledge, Attitude and Practice of women food vendors

Zone	N	Mean Knowledge	Mean Attitude	Mean Practice
1	28	32.86	73.32	37.43
2	22	32.00	60.73	35.95
3	13	30.85	55.77	35.69
4	29	32.69	63.76	36.45
5	8	30.13	51.75	35.25
p-value		0.434	P<0.001*	0.223

Table 3. Factors Influencing knowledge, Attitude and Practice of street food safety – Multinomial regression analysis

Variables	Level of Knowledge			Level of Attitude			Level of Practice		
	OR	95% CI		OR	95% CI		OR	95% CI	
ZONE	.771	.549	1.082	.538*	.365	.794	.783	.571	1.075
AGE	1.039	.988	1.092	.955	.905	1.007	1.015	.969	1.064
Marital status	.699	.350	1.394	1.657	.697	3.940	.831	.429	1.611
Educational qualification	1.777	.961	3.287	1.021	.565	1.848	1.443	.857	2.429
Food safety training	.677	.047	9.704	.000	.000	-	1.194	.120	11.852
Family income	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Experience	.991	.935	1.050	1.131*	1.031	1.242	1.012	.958	1.069

Table 4. Relation between food safety knowledge, attitude and practice and socio-economic factors of women street food vendors

	Marital status	Family size	Incoming member	Educational qualification	Food safety training	Experience	Family income	Per capita income	Types of sold food	Material of vending stall	Business license	KNOWLEDGE TOTAL	ATTITUDE TOTAL	PRACTICE TOTAL
Marital status	1													
Family size	.075	1												
Incoming member	.067	.554**	1											
Educational qualification	-.122	.040	-.060	1										
Food safety training	.078	.031	.075	-.149	1									
Experience	.275**	.088	.218*	-.263**	.141	1								
Family income	-.026	.156	-.068	.224*	-.003	.051	1							
Per capita income	-.001	-.480**	-.413**	.171	.016	-.050	.692**	1						
Types of solid food	.229*	.044	-.144	-.004	.003	.106	-.181	-.194	1					
Material of vending stall	.168	.136	.089	-.015	.159	.166	-.022	-.096	-.135	1				
Business license	.135	.105	.057	.119	.040	.215*	-.053	-.029	.002	.215*	1			
KNOWLEDGE TOTAL	-.241*	.068	.173	.200*	-.085	-.106	.135	.110	-.072	-.150	.182	1		
ATTITUDE TOTAL	.109	.133	.213*	.134	-.161	.170	-.092	-.099	-.149	.032	.224*	.314**	1	
PRACTICE TOTAL	.028	.065	.060	.117	.080	.073	.182	.127	-.350**	.174	.174	.319**	.359**	1

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

The findings show that some vendor has very low nutritional and food safety knowledge and attitude. Some of them have good knowledge attitude but that did not reflects at their food handling practices. Women street food vendors are very common at eastern part of Kolkata (29%). Women vendors are also available at southern Kolkata (28%). Women vendors are very rare at west Kolkata. This survey found positive results regarding the education of the vendor. No one is illiterate among 100 respondents. On the other hand there is a very poor result regarding their food safety training. 96% have not any food safety training. No of incoming members also shows a significant results 37% women vendor are only incoming member of their family and 14% PCI is below 1000. Women vendors are more comfortable in cooking stable food (36%) and making beverages (53%). 33% have not any structured vending stall they are sold their food in open sky. Zone 1 i.e southern zone is best among others as the mean value (32.86) of knowledge is more than other zones. Zone 1 is also best in nutritional and food safety attitude and practices as the mean value of attitude is (73.32), and mean value of Practice is (37.43) are more than other zones.

Age, marital status, educational qualification, work experience all have a positive relation with women vendor's nutritional and food safety knowledge, attitude and practice But It has no relation with her family income.

Conclusion and Recommendation

The main purpose of this study was to assess the socio-economic status, nutritional and food safety knowledge, attitude and practices of women street food vendors of Kolkata. As per our knowledge it is the first study to evaluate and report these important aspects of women street food vendors in Kolkata. However, it can be summed up that out of total 100 respondents most of them have very low family income and some of them have good knowledge and attitude on food safety and nutrition but they are unable to practice those due to lack of basic amenities. They also have not any business security like business license, lack of space, sanitation, water supply etc. etc. If they get basic amenities and proper environment they can serve better and street food industry of Kolkata can be taken a remarkable position

There are some recommendations from this study are as follows;

- Food safety training should be given by government to improve their knowledge, attitude and practices.
- Women vendor need financial support to improve their business.
- The most important things is business security. Women vendor need proper space, business license and some basic amenities to serve better.

Limitations

A limitation of this study is that the sample size is not same in different zone. Sample was selected according to their availability so there is a big difference in sample size between each zone. Another important limitation is that food safety practices are somewhat more difficult to evaluate by self – reported bias. It should further assess needed on observation basis. Continuous assessing and monitoring and periodic training is essential to optimizing food hygiene in street food. Women vendors also demand special facility and protection for a strong women empowerment.

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